

REMARKS

Acknowledgement of Allowable Claims 2-4, 6-9, and 12

Applicant hereby acknowledges the Examiner's finding of allowability with respect to claims 2-4, 6-9, and 12 in the July 14, 2003 Office Action.

Applicant is aware of the Examiner's objections to such allowable claims due to their dependency on rejected base claim 1, and appreciates the Examiner's suggestion about rewriting such objected claims into independent form.

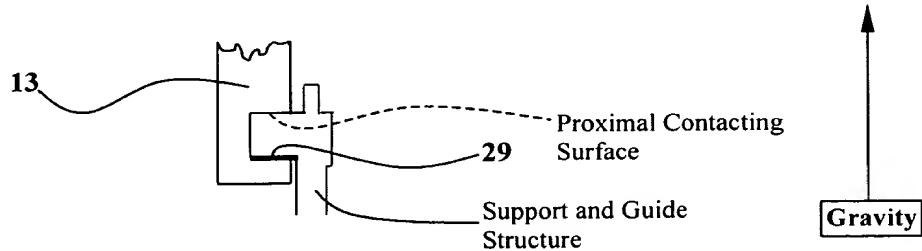
However, Applicant would like to temporarily defer the rewriting of such objected claims 2-4, 6-9, and 12 into independent form until after the Examiner have reviewed the arguments presented hereinafter regarding the patentability of the rejected base claim 1.

Response to the Objections to the Drawings

In the July 14, 2003 Office Action, the Examiner objected to Figure 3 for contradicting Figure 2, on the basis that Figure 2 shows a hanging diaphragm element 13 and a standing diaphragm element 14, while Figure 3 shows the diaphragm element 13 as standing and 14 as hanging instead.

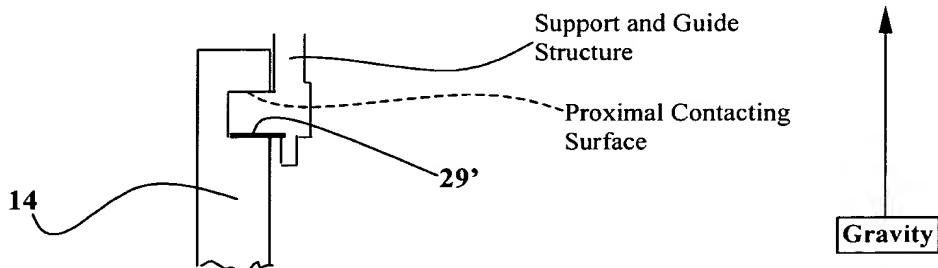
Applicant would like to point out that Figure 3 does not contradict Figure 2 in any manner, because Figure 3 shows an upside-down drawing of the hanging diaphragm element 13 and the standing diaphragm element 14. Such upside-down placement is easily inferred from the position of the bearing surfaces 29 and 29' indicated in Figure 3.

For the diaphragm element 13, Figure 3 shows the following relationship between the diaphragm element 13 and its respective bearing surface 29:



If the diaphragm element 13 of Figure 3 were in fact standing upon the support and guide structure, the bearing surface 29 that supports the weight of element 13 would be the proximal contacting surface (as indicated by the dotted line), instead of the distal contacting surface as shown in Figure 3. From the fact that the distal contacting surface between the diaphragm element 13 and the support and guide structure functions as the bearing surface that supports the weight of element 13, it is evident that gravity actually points upward in Figure 3, and that Figure 3 shows an upside-down drawing in which the diaphragm element 13 is actually hanging on the support and guide structure at the bearing surface 29 that is distal to such diaphragm element 13. Therefore, the diaphragm element 13 of Figure 3 is a hanging diaphragm, not a standing diaphragm.

For diaphragm element 14, Figure 3 shows the following relationship between the diaphragm element 14 and its respective bearing surface 29':



If the diaphragm element 14 of Figure 3 were in fact hanging over the support and guide structure, the bearing surface 29' that supports the weight of element 14 would be the distal contacting surface (as indicated by the dotted line), instead of the proximal contacting surface as shown in Figure 3. From the fact that the proximal contacting surface between the diaphragm element 14 and the support and guide structure functions as the bearing surface that supports the weight of element 14, it is evident that gravity actually points upward in Figure 3, and that Figure 3 shows an upside-down drawing in which the diaphragm element 14 is actually standing on the support and guide structure at the bearing surface 29' that is proximal to such diaphragm element 14. Therefore, the diaphragm element 14 of Figure 3 is a standing diaphragm, not a hanging diaphragm.

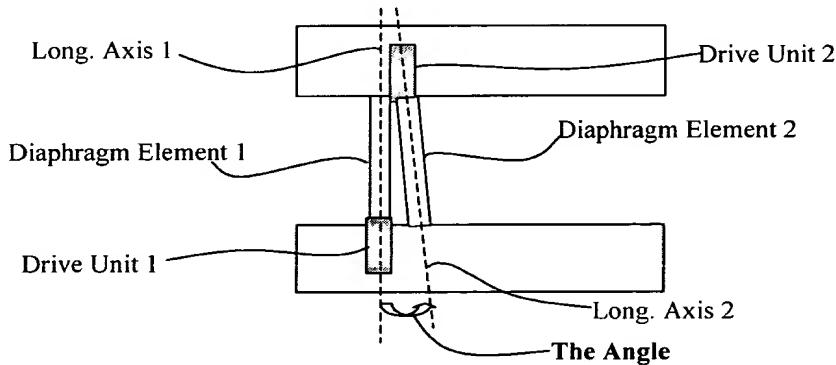
Therefore, Figure 3 does not contradict Figure 2, and both Figures 2 and 3 show a hanging diaphragm element 13 and a standing diaphragm element 14.

Applicant hereby apologizes for any confusion caused by the upside-down configuration of Figure 3, and respectfully requests the Examiner to review, and upon review to withdraw, the objection of Figure 3.

The drawing objections raised by the Examiner in Sections 2 and 3 of the Office Action have been overcome hereby via amendments to Figure 5 and to the instant specification on pages 9-11. Specifically, Figure 5 has been amended by deleting the reference numeral 44 that is not mentioned in the specification. The instant specification has been amended on page 10, line 2 by change the reference numeral for the shaft from 40 to 43. Further, the instant specification has been amended on page 11, by changing the reference number 63 at line 6 into "64," and by adding reference number 66 behind the phrase "at one end" at line 7, consistent with the drawing in Figure 9.

In response to the Examiner's objection to the drawings in Section 4 of the Office Action based on failure to show the angle recited in claim 6, Applicant has amended the instant specification on page 4, by correcting certain mistranslation of the specification from the original German text into English. Specifically, the German phrase "in ihrer Erstreckung" should be translated as "in their extent" instead of "over the distance." Corresponding corrections have been made to claim 6, by defining the longitudinal axes of the two diaphragm elements as "extend[ing] from the respective drive units to the respective sides opposite to said drive units," instead of "over the distance from the drive unit to their facing side," which is a cumbersome locution.

By correcting the mistranslations, the meaning of claim 6 becomes clear, which specifies an angle formed between the longitudinal axes of the two diaphragm elements that extend from the respective drive units to the respective opposite sides, as follows:



An ordinary person, by reading claim 6, will readily understand the claimed subject matter with respect to such angle formed by the longitudinal axes of at least two diaphragm elements. Therefore, a specific drawing showing such angle is not necessary for understanding the subject matter claimed by claim 6, and therefore is not required by 37 C.F.R. §1.83(a).

Submission of New Formal Drawings for Figures 1-9

A new set of formal drawings for Figures 1-9 and associated marked-up copies showing changes made to Figures 5 and 8 are attached herewith for the Examiner's review and approval in **Appendices B and C**. Applicant hereby requests the Examiner, upon approval of the changes made thereby, to forward the new formal drawings to the Official Draftsperson's Office. Such new formal drawings overcome all the objections raised by the Official Draftsperson in the June 27, 2003 Notice of Draftsperson's Patent Drawing Review enclosed in the July 14, 2003 Office Action.

Response to the Objections to the Specification

The instant specification has been amended to overcome the objections raised by the Examiner to the description and the abstract in the July 14, 2003 Office Action, with the exception that the reference numeral "40" used on page 10, line 2 of the specification remains unchanged, while change has been made to the corresponding Figure 5, by replacing the reference numeral "43" therein with "40," consistent with the usage of reference numeral "40" in the specification.

Response to the §112 Rejection of Claim 6

In the July 14, 2003 Office Action, the Examiner rejected claim 6 under 35 U.S.C. §112, second paragraph, for failing to define the "angle" recited therein in a way that can be understood.

In response, Applicant has hereby amended claim 6 to correct certain mistranslation from the original German text into English. The amended claim 6 clearly defines an angle formed by "the longitudinal axes of at least two diaphragm elements, which extend from the respective drive units to respective sides opposite to said drive units, ... so that the diaphragm elements are arranged in a fan formation." Therefore, claim 6 as amended overcomes the §112 rejection.

Response to the §102 and §103 Rejections

In the July 14, 2003 Office Action, the Examiner rejected claims 1, 5, 11, and 10 under 35 U.S.C. §102(b) and/or 35 U.S.C. §103(a) as being unpatentable over **Span** et al. U.S. Patent No. 5,012,506 (hereinafter “Span”) and/or **Gould** et al. U.S. Patent No. 3,726,486 (hereinafter “Gould”).

Specifically, the Examiner asserted that the primary reference Span discloses “a plurality of diaphragm elements (18)... arranged movably with respect to each other, such movement being powered by a drive unit (29) for each diaphragm element, and wherein the diaphragm elements are supported only on the first terminal portion (column 4, lines 32-44) of the diaphragm element that is positioned near (in proximity) the drive unit” (see the July 14, 2003 Office Action, page 4, section 10, second paragraph).

Applicant respectfully disagrees, on the basis that the Examiner mischaracterized the disclosure of the Span reference. Span actually teaches about supporting the diaphragm elements 18 at two terminal portions that are opposite to each other.

Specifically, the Span reference discloses that each leaf 18 (i.e., diaphragm element) is supported at both an upper edge and a lower edge by an arrangement of three (3) grooved rollers 22, while two of the grooved rollers 22 are spaced along the upper edge of the leaf 18, and one of the groove rollers 22 is placed intermediately in contact with the lower edge of the leaf 18, “so that the leaf is firmly located in a linearly displaceable manner for all variations in the attitude of the head 7” (See Span, Figure 2, and column 4, lines 21-27).

Figure 5 of Span shows an enlarged view of the bearing supports relating to the grooved rollers 22 at the lower edges of the leaves 18, wherein the weight of the leaves 18 falls upon the grooved rollers 22 and is further carried by the disc washers 24 displaced between the grooved rollers 22, as described at column 4, lines 32-44 of the Span reference.

The relationship between the view showed by Figure 2 and Figure 5 of Span are as follows:

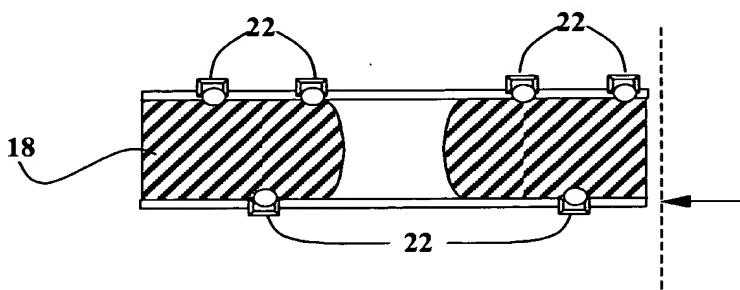


Figure 2 (Front View)

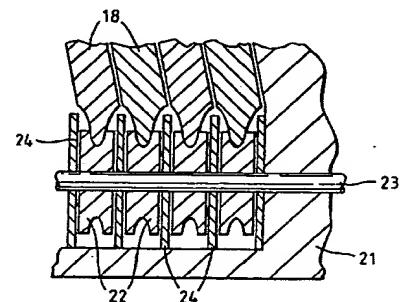


Figure 5 (Lower Side View)

Figure 5 only shows the grooved rollers 22 and disc washers 24 supporting the leaves 18 at the lower edges, but it does not mean that the leaves 18 are supported only at the lower edges. Instead, the leaves 18 of Span are also supported by grooved rollers 22 and disc washers 24 at the upper edges, as shown by Figure 2 and disclosed by column 4, lines 21-27 of the Span reference.

Therefore, Span actually discloses diaphragm elements that are supported at both a first terminal portion (i.e., one of the upper or lower edges) and a second terminal portion that is opposite to such first terminal portion (i.e., the other of the upper or lower edges), and it does not provide any derivative basis for a diaphragm element that is supported on only a first terminal portion near the drive unit, as required by independent claim 1 (from which claims 5, 11, and 10 depend) of the present application.

The secondary reference Gould does not remedy such deficiency of Span in any manner.

Therefore, the rejected claims 1, 5, 11, and 10 patentably distinguish over the cited references Span and Gould, by requiring a diaphragm element that is supported on only a first terminal portion near the drive unit. Applicant hereby requests the Examiner to reconsider, and upon reconsideration to withdraw, the rejections of claims 1, 5, 11, and 10.

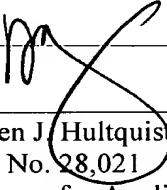
CONCLUSION

All the pending claims 1-12 as amended herein are now in form and condition for allowance. Issue of a Notice of Allowance for the application is therefore requested.

The Office is hereby authorized to charge any fees that are necessary for entry of this Response to Deposit Account No. 08-3284 of Intellectual Property/Technology Law.

If any issues remain outstanding, the Examiner is requested to contact the undersigned attorney at (919) 419-9350 to discuss their resolution, so that this application may be passed to issue at an early date.

Respectfully submitted,



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APPENDIX B

Marked-Up Copies of Figures 5 and 8 Showing Changes Made

AMENDED MARK-UP DRAWINGS

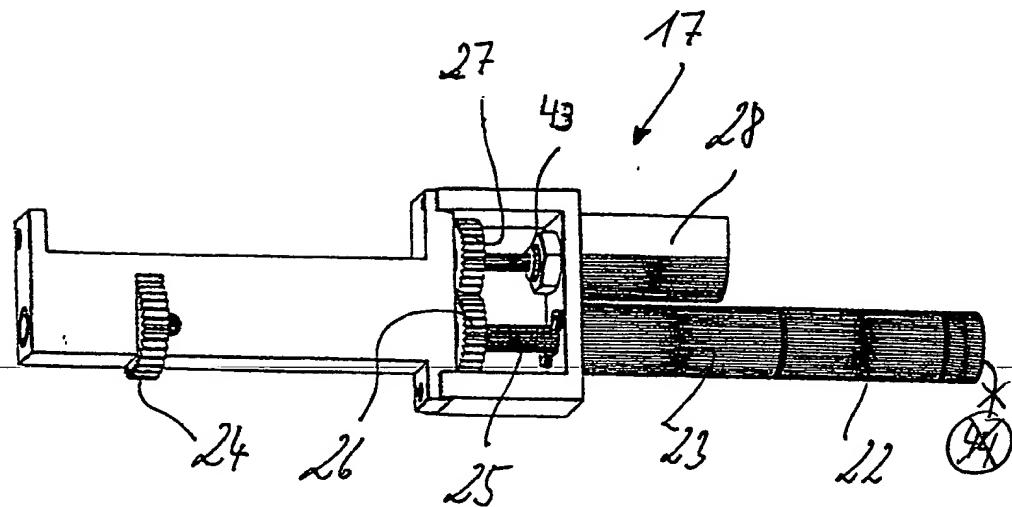


Fig. 5

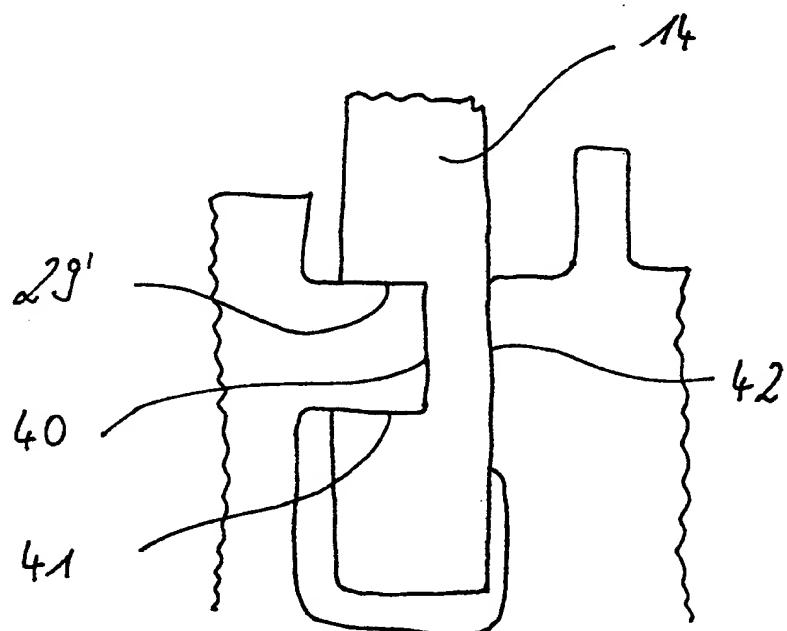


Fig. 6

AMENDED MAKE-UP DRAWINGS

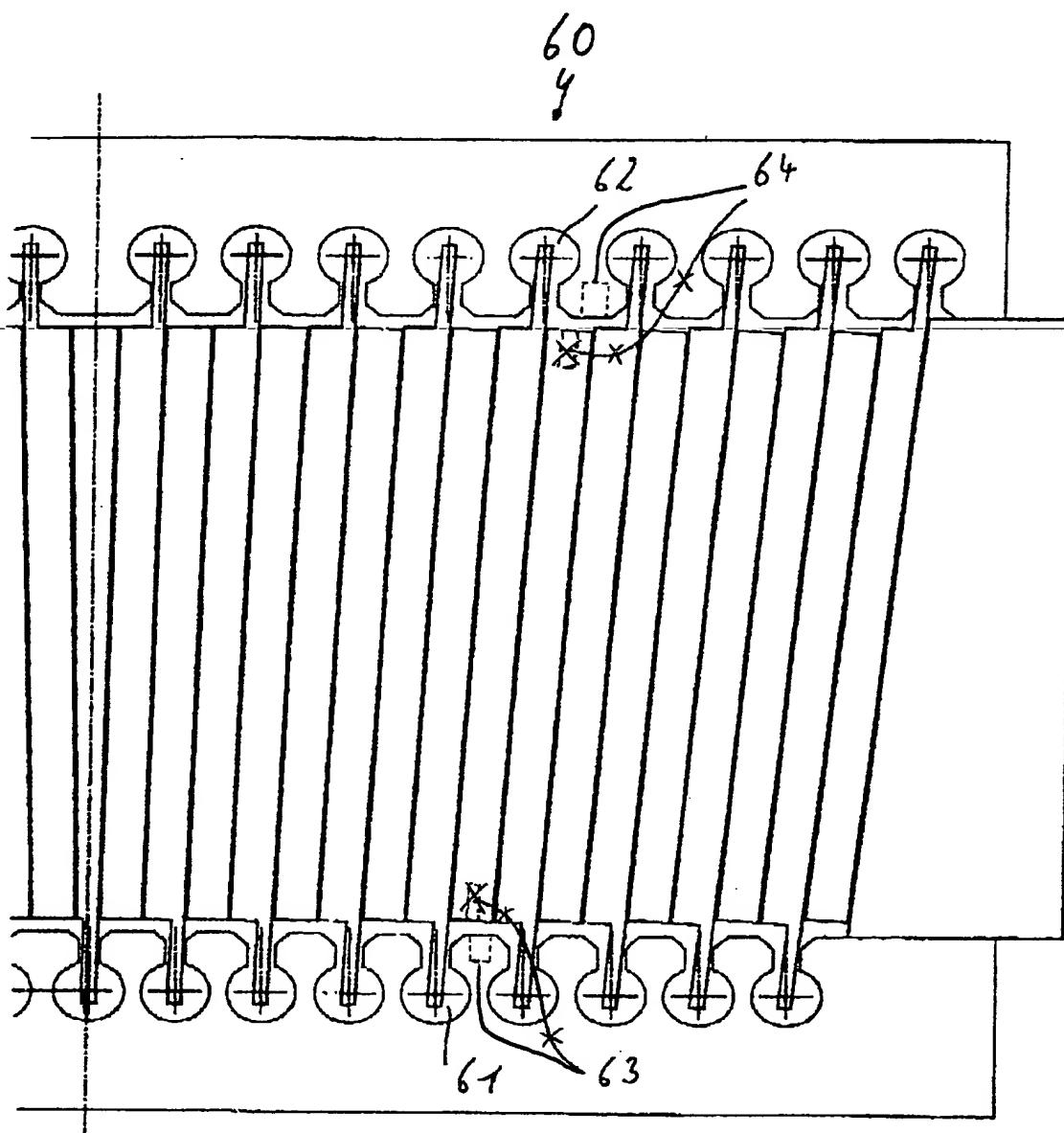


Fig 8